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NAVY EXPERIMENTAL DIVING UNIT PANAMA CITY FLA
EVALUATION OF HEALTHWAYS SE/VIEW OIL-FILLED DEPTH GAUGE MODEL 1--ETC(U)
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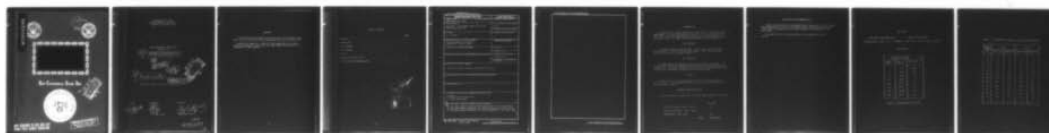
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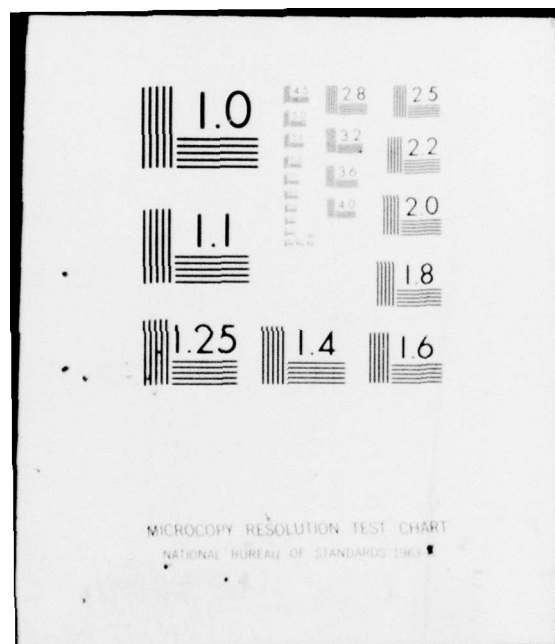
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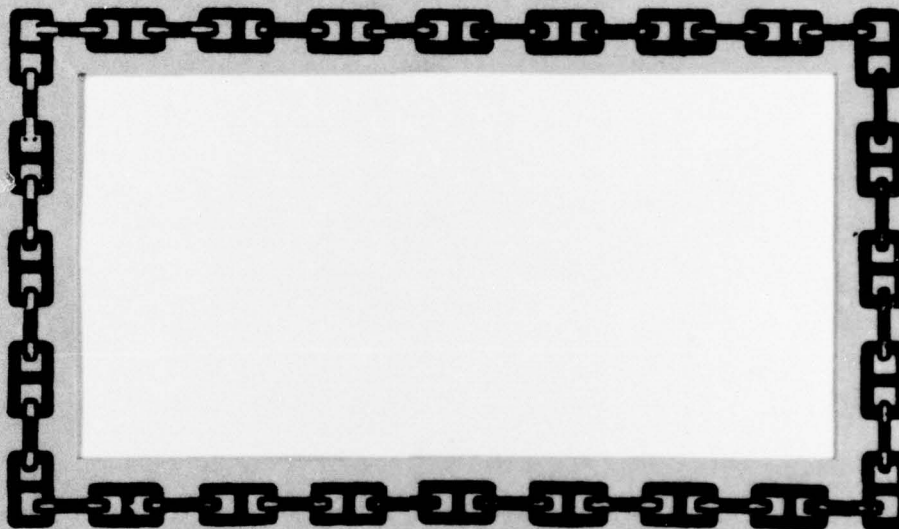
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NAVY EXPERIMENTAL DIVING UNIT
Panama City, Florida 32401

NAVY EXPERIMENTAL DIVING UNIT
REPORT 8-76

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EVALUATION OF HEALTHWAYS SEAVIEW
OIL-FILLED DEPTH GAUGE MODEL 1975.

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Submitted:

D. J. Schmitt
D. J. SCHMITT
T & E Dept.

Reviewed:

J. G. Malec
J. G. MALEC
LCDR, RN
T & E Dept. Head

Approved:

J. Michael Ringelberg
J. MICHAEL RINGELBERG
CDR, USN
Commanding Officer

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ABSTRACT

The Healthways Diving Company's new oil-filled (silicone) depth gauge, model 1975 was tested at the Navy Experimental Diving Unit in March 1976.

Although this gauge has a large face with large numbers on a light-reflective background, tests proved this depth gauge too inaccurate to be recommended for Navy approval.

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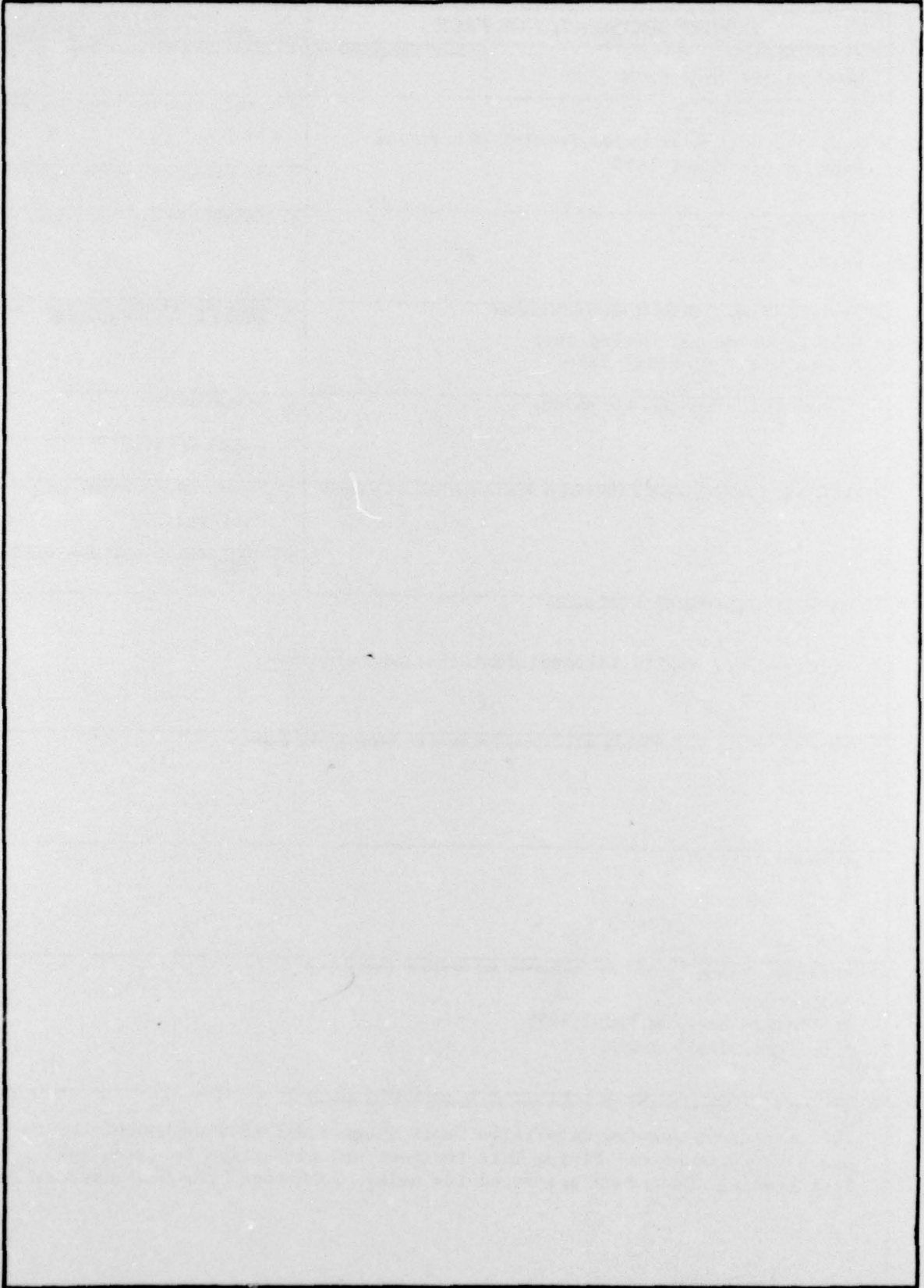
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Healthways Seaview Oil-Filled Depth Gauge Model 1975 was submitted to the Navy Experimental Diving Unit for test and evaluation in March 1976. Test reading inaccuracy prevented its being recommended for Navy Approval.		

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INTRODUCTION

Healthways Diving Company submitted two model 1975 oil-filled (silicone) depth gauges to the Navy Experimental Diving Unit for test and evaluation in March 1976. The depth gauges had large dial faces, one silver and one orange, with large numbers on a light-reflective background for good readability.

TEST EQUIPMENT

A Bethlehem Chamber, model 193.610HP, and test gauge 25546-25011-GAG, were required to test the oil-filled depth gauges. Test gauge calibration performed 1 March 1976 is shown in Figure 1.

TEST PROCEDURE

The depth gauges were placed in a pan and covered with fresh water. The pan was then placed in the Bethlehem Chamber, which was pressurized with high-pressure air. The gauges were tested to a depth of 250 feet of sea water (fsw). Comparison was achieved by looking through the chamber window.

RESULTS

Results of the tests of the two model 1975 oil-filled depth gauges are given in Table 1. The readings obtained at each test depth are compared with the test gauge readings.

MAN-HOURS REQUIRED FOR TEST

Man-hours required for testing the oil-filled depth gauges were as follows:

	<u>Man-hours</u>
Chamber operation, 3 men, 2 hours	6
Reporting manuscript, 1 man, 3 hours	3
Duplicating, 1 man, 1 hour	<u>1</u>
TOTAL	10 Man-hours

CONCLUSIONS AND RECOMMENDATIONS

Because the readings on the Healthways Diving Company model 1975 oil-filled depth gauges were not accurate, this gauge model is considered unsatisfactory. A diver using this gauge and its erroneous readings could decompress on the wrong table.

The model 1975 oil-filled depth gauge is not recommended for Navy approval.

TEST GAUGE

PART NUMBER 25546-25011 GAG

SERIAL NUMBER 10,52-1

PRESSURE RANGE 200 P.S.I. ACCURACY + 1/4 % FULL SCALE (+ -1.1 P.S.I.)

CALIBRATION

INCREASING PRESSURE		
Applied Press.	Indicated Press.	Difference
0	0.00	0.00
30	30.26	+ .26
60	59.63	- .37
90	89.66	- .34
120	119.7	- .3
150	149.5	- .5
180	178.89	-1.11
200	198.9	-1.1

FIGURE 1. CALIBRATION OF TEST GAUGE

TABLE 1. TEST READINGS OF MODEL 1975 OIL-FILLED DEPTH GAUGES

Chamber Depth (FT)	Test 1		Test 2	
	Silver Face	Orange Face	Silver Face	Orange Face
0	5	0	5	4
20	30	28	30	30
50	60	59	60	60
70	81	77	80	79
80	91	87	90	88
100	111	106	110	107
150	162	160	162	159
200	214	211	214	210
250	PEG.	PEG.	PEG.	PEG.
150	167	165	165	162
100	115	112	112	110
50	65	62	60	60
0	7	5	5	6

